AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1.   (Withdrawn) A data receiving method for data link layer of a protocol applied to an electric device, which consists of a physical layer, a data link layer, and an upper layer, the method comprising the steps of:

    receiving data from the physical layer;

    storing the received data in a packet buffer;

    deciding whether new data has been received within a predetermined data allowable interval time since last data is received; and

        based on a result of the first decision, completing receiving the data;

        composing a packet of data stored in the packet buffer: and

        transmitting the composed packet to the upper layer.

2.   (Withdrawn) The method of claim 1, wherein if, in the decision step, the new data is not received within the data allowable interval time, receiving the data is completed, whereas if the new data is received within the data allowable interval time, the new data is stored in the packet buffer.

3.   (Withdrawn) The method of claim 1, further comprising the step of: deciding whether the data link layer is ready for receiving data prior to the data receiving step, and if the data link layer is ready, receiving the data.

4.   (Canceled)

5.   (Withdrawn) The method of either claim 1 or 3, further comprising the step of:

        after the completion of receiving the data and before composing the packet, disabling the data link layer's data reception.

6.   (Withdrawn) The method of claim 5, further comprising the step of:

        after a lapse of a predetermined time since the packet transmission, enabling the data link layer's data reception.

7.   (Withdrawn) The method of claim 6, wherein the predetermined time is a minimum packet permitted time interval (MinPktlnterval).

8.   (Withdrawn) The method of claim 7, wherein the minimum packet permitted time interval (MinPktinterval) is greater than a time spent at the upper layer in receiving the packet and completing packet processing.

9.   (Canceled)

10.   (Previously Presented) A data transferring method for data link layer, wherein the data link layer is of a protocol applied to an electric device, which comprises at least a physical layer, a data link layer and an upper layer, and the data link layer transmits a packet from the upper layer to the physical layer, which the method comprises the steps of:

a first checking step for checking whether the network status is in an idle status;

according to a result of the first checking step, selecting a transmission delay time (RandomDelayTime);

a second checking step for checking whether the network status is an idle status during the selected transmission delay time (Random DelayTime); and

according to a result of the second checking step, transmitting the received packet to the physical layer.

11.   (Original) The method of claim 10, wherein the first network status checking step is performed during a minimum packet permitted time interval (MinPktlnterval).

12.   (Withdrawn) The method of claim 10, further comprising the step of: making a first decision regarding whether the packet is successfully transmitted.

13.   (Canceled)

14.   (Canceled)

15.   (Previously Presented) The method of claim 12, further comprising the steps of:

if, in the first decision step, the packet is not successfully transmitted, increasing a retry count (RetryCount) for the received packet by a predetermined value;

making a first comparison between the increased retry count (RetryCount) and a predetermined backoff repeat times (BackOffRetries); and based on a result of the first comparison, transmitting a transmission result to the upper layer.

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16.   (Previously Presented) The method of claim 15, wherein if, in the first comparison step, the increased retry count (RetryCount) is greater than the backoff repeat times (BackOffRetries), the transmission result comprises a failure message (SEND_FAILED) or if, in the first comparison step, the increased retry count (RetryCount) is less or equal to the backoff repeat times (BackOffRetriesL performinq all steps again startif from the first checking step.

17.   (Canceled)

18.   (Previously Presented) The method according to one of claims 10 to 12. 15, and 16, further comprising the step of:

        making a second comparison between a transmission execution time of the received packet and a predetermined maximum transmission allowable time (MACExecTime),

        wherein if, in the first and second checking step steps, the network status is busy or if, in the first comparison step, the increased retry count (RetryCount) is less or equal to the backoff repeat times (BackOffRetries), the second comparison step is performed.

19.   (Original) The method of claim 18, further comprising the step of: based on a result of the second comparison, transmitting a transmission result to the upper layer.

20.   (Previously Presented) The method of claim 19, wherein if, in the second comparison step, the transmission execution time of the received packet is greater or equal to the maximum transmission allowable time (MACExecTime), the transmission result comprises a failure message (SEND_FAILED), or if, in the second comparison step, the transmission execution time of the received packet is less than the maximum transmission allowable time (MACExecTime), performing all steps again starting from the first checking step.

21.   (Canceled)

22.   (Previously Presented) The method of claim 10, wherein the transmission delay time (RandomDelayTime) is selected within a predetermined competitive window (Wc) range, according to service priority (SvcPriority) of the received packet.

23.   (Canceled)

24.   (Canceled)

25.   (Canceled)

26.   (Canceled)

27.   (Previously Presented) The method according to claim 12, wherein the first decision step comprises the sub-step of:

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comparing the transmitted packet with the received packet, and based on a result of the comparison, deciding whether the packet is successfully transmitted.

28.   (Canceled)

29.   (Previously Presented) A data transferring method for data link layer, wherein the data link layer is of a protocol applied to an electric device, which comprises at least a physical layer, a data link layer and an upper layer, and the data link layer transmits a packet from the upper layer to the physical layer, which the method comprises the steps of:

a first checking step for checking whether the network status is in an idle status;

according to a result of the first checking step, transmitting the received packet to the physical layer; and

making a first decision regarding whether the packet is successfully transmitted.

30.   (Canceled)

31.   (Canceled)

32.   (Canceled)

33.   (Original) The method of claim 30, further comprising the steps of:

if, in the first decision step, the packet is not successfully transmitted, increasing a retry count (RetryCount) for the received packet by a predetermined value;

making a first comparison between the increased retry count (RetryCount) and a predetermined backoff repeat times (BackOffRetries); and

based on a result of the first comparison, reportting a transmission result to the upper layer.

34.   (Canceled)

35.   (Previously Presented) The method according to either claim 30 or 34, further comprising the step of:

making a second comparison between a transmission execution time of the received packet and a predetermined maximum transmission allowable time (MACExecTime),

wherein if, in the first checking step, the network status is busy or if, in the first comparison step, the increased retry count (RetryCount) is less or equal to the backoff repeat times (BackOffRetries), the second comparison step is performed.

36.   (Canceled)

37.   (Canceled)

38.   (Canceled)

39.   (Canceled)

40.   (Canceled)

41.   (Previously Presented) A data transferring method for data link layer, wherein the data link layer is of a protocol applied to an electric device, which comprises at least a physical layer, a data link layer and an upper layer, and the data link layer transmits a packet from the upper layer to the physical layer, which the method comprises the steps of:

a first checking step for checking whether the network status is in an idle status;

according to a result of the first checking step, selecting a transmission delay time (RandomDelayTime) within a predetermined competitive window (Wc) range defined according to service priority SvcPriority of the received packet;

a second checking step for checking whether the network status is an idle status during the selected transmission delay time (Random DelayTime); and

according to a result of the second checking step, transmitting the received packet to the physical layer.

42.   (Canceled)

43.   (Original) The method of claim 42, further comprising the step of: deciding whether the packet is successfully transmitted.

44.   (Canceled)

45.   (Canceled)

46.   (Previously Presented) The method according to ere-of-claims either claim 42 or 44, further comprising the step of:

comparing between a transmission execution time of the received packet and a predetermined maximum transmission allowable time (MACExecTime),

wherein if, in the first and second checking step steps, the network status is busy or if, in the first decision step, the packet is not successfully transmitted, the comparison step is performed.

47.   (Canceled)

48.   (Canceled)

49.   (Canceled)

50.   (Original) The method of claim 47, further comprising the step of: before performing the first checking step again, changing the competitive window (Wc) range by a

predetermined size that is set according to the service priority (SvcPriority) of the received packet.

51.   (Original) The method of claim 51, wherein, to increase a transmission probability, a lower limit and/or an upper limit of the competitive window (Wc) range is reduced by the size.

52.   (Canceled)

53.   (Original) The method of claim 51, wherein, to reduce a transmission collision, a lower limit and/or an upper limit of the competitive window (Wc) range is increased by the size.

54.   (Canceled)

55.   (Canceled)

56.   (Canceled)

57.   (Canceled)